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PATENT
Atty. Docket: 1400-25 (869/870)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : BRADLEY ET AL. Examiner: Lisa M. Caputo
Serial No. : 09/843,946 Group Art Unit: 2876
Filed : April 30, 2001 Dated: September 20, 2006
For : IMAGER INTEGRATED CMOS CIRCUIT CHIP AND
ASSOCIATED OPTICAL CODE READING SYSTEMS

Mail Stop: Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPELLANTS' BRIEF

Sir:

Enclosed please find APPELLANTS' BRIEF ON APPEAL in triplicate.

Also enclosed is a check in the amount of \$500.00 to cover the appeal fee.

If the enclosed check is insufficient for any reason or becomes detached, please charge the required fee under 37 C.F.R. § 1.17 to Deposit Account No. 50-2140. Also, in the event any additional extensions of time are required, please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-2140. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Respectfully submitted,

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Dated: September 20, 2006

Maria Goldman



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APPELLANTS' BRIEF ON APPEAL

Madam/Sir:

Appellants herewith respectfully present their Brief on Appeal as follows:

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

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Maia Goldman
(Signature of Person Mailing Envelope)

I. REAL PARTIES IN INTEREST

The real parties in interest are Bradley S. Carlson and Raj Bridgelall.

II. RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge and belief, there are no other related appeals or interferences for this application.

III. STATUS OF CLAIMS

Claims 1-9 and 15-18 are pending in this application with Claims 1 and 15 being in independent form. Claim 1-9 and 15-18 were rejected in the Final Office Action mailed on April 20, 2006. The rejections with respect to these claims were upheld in an Advisory Action mailed on July 6, 2006. Claims 1-9 and 15-18 are the subject of this appeal. A listing of Claims 1-9 and 15-18 is provided in the Claims Appendix.

IV. STATUS OF AMENDMENTS

A response after the Final Action was filed on June 20, 2006 in response to the Final Office Action mailed on April 20, 2006. In the response, no amendments were made to the claims. The Advisory Action upheld the rejections stated in the Final Office Action. This Appeal Brief is in response to the Final Office Action that rejected Claims 1-9 and 15-18 and the Advisory Action that upheld the rejections in the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter relates to methods and apparatus useful in optical code readers and camera systems. Techniques are disclosed which are applicable to the design of solid state die packages for code readers and cameras of various types.

In one embodiment, a photo sensor array for an optical code reader or camera system is formed on the same monolithic circuit chip as a digitizer and a decoder. The array can be either a linear array for detecting one-dimensional bar code symbols or an area array for imaging two dimensional optical code symbols or objects or scenes.

In another embodiment, an imager for an optical code reader or camera system is formed on the same monolithic circuit chip as a processor, memory and radio frequency transceiver. In accordance with this embodiment, the processor, radio frequency transceiver and imager are formed on the monolithic circuit chip in accordance with complementary metal oxide semiconductor (CMOS) techniques. Further, the memory can be formed from ferroelectric random access memory (FRAM), flash or E²PROM. The radio frequency transceiver and imager can share components on the monolithic circuit chip for processing the signals received by the transceiver and imager.

A first aspect of the present disclosure, as claimed in independent Claim 1, relates to a monolithic circuit chip having a radio frequency (RF) communication capability. The circuit chip comprises a complementary metal oxide semiconductor (CMOS) imager; CMOS microprocessing circuits for receiving image data from the CMOS imager and data from an RF receiver; an RFID reader; and a memory for providing non volatile data storage on the circuit chip. See specification, page 7, lines 7-9; page 8, lines 15-28; page 11, lines 22-25; and FIG. 3.

In a second aspect of the present disclosure, as claimed in independent Claim 15, relates to a method for communicating image information using a monolithic circuit chip. The method comprises the steps of capturing, by a digital imager, an image; processing the image by a processor using a ferroelectric memory; equipping the monolithic circuit chip with an RFID reader for reading an RFID tag; and transmitting, by a radio frequency transmitter, the processed image over an air-interface, wherein the digital imager, processor and radio frequency transmitter are formed on the monolithic circuit chip. See specification, page 8, line 15 to page 10, line 13; page 11, lines 22-25; and FIG. 3.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-3 and 5-6 were properly rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0050518 issued to Roustaei; whether Claim 4 was properly rejected under 35 U.S.C. §103(a) as being unpatentable over Roustaei in view of U.S. Patent Application Publication No. 2001/0034222 issued to Roustaei et al.; whether Claims 7-9 and 15 were properly rejected under 35 U.S.C. §103(a) over Roustaei; and whether Claims 16-18 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over Roustaei in view of U.S. Patent No. 6,243,029 issued to Tomer.

VII. ARGUMENT

A. REJECTION OF CLAIMS 1-3 AND 5-6

Claims 1-3 and 5-6 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0050518 issued to Roustaei. Appellants believe that the subject matter recited by pending independent Claim 1 is patentable over the teachings of the cited reference.

Appellants respectfully submit that Roustaei does not teach or suggest all of the elements recited by independent Claim 1; a requirement for establishing a *prima facie* anticipation rejection over a prior art reference. Specifically, Roustaei does not disclose or suggest “A monolithic circuit chip having a radio frequency (RF) communication capability, wherein the circuit chip comprises: a complementary metal oxide semiconductor (CMOS) imager; CMOS microprocessing circuits for receiving image data from the CMOS imager and data from an RF receiver; an RFID reader; and a memory for providing non volatile data storage on the circuit chip,” as recited by Applicants’ Claim 1. Support for the underlined recitations is found at page 8, lines 15-28; and page 11, lines 22-25 of Appellants’ specification.

Roustaei discloses RFID technology at paragraph 0168 in conjunction with FIG. 22 where an RFID tag for identifying an item within the field of a RF reader is described. Roustaei, however, does not disclose or suggest a monolithic circuit chip having radio frequency (RF) communication capability and comprising, *inter alia*, an RFID reader, as recited by Applicants’ Claim 1.

FIG. 22 of Roustaei illustrates an RFID tag 2220 (not an RFID reader) which according to paragraph 0168 of Roustaei can be deactivated by a device 2210 creating an electromagnetic field

in front of an imager 100. An article having the deactivated RFID tag 2220 can then freely pass from the store (usually, store doors are equipped with readers allowing the detection of a non-deactivated tag). The RFID tag 2220 is a conventional RFID tag affixed to articles for applications such as Electronic Article Surveillance (“EAS”). There is no disclosure or suggestion by Roustaei of a monolithic circuit having radio frequency (RF) communication capability and comprising an RFID reader as recited by Applicants’ Claim 1.

Accordingly, it is therefore respectfully submitted that Claim 1 is allowable over Roustaei. Claims 2-3 and 5-6 depend from Claim 1 and contain all of the features of Claim 1, therefore for the reasons presented above for the patentability of Claim 1, it is respectfully submitted that Claims 2-3 and 5-6 are also patentable. Hence, withdrawal of the rejection with respect to Claims 1-3 and 5-6 under 35 U.S.C. §102(e) and allowance of Claims 1-3 and 5-6 are respectfully requested.

B. REJECTION OF CLAIM 4

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Roustaei in view of U.S. Patent Application Publication No. 2001/0034222 issued to Roustaei et al. Claim 4 depends from Claim 1 and contain all of the features of Claim 1, therefore for the reasons presented above for the patentability of Claim 1, it is respectfully submitted that Claim 4 is also patentable. Hence, withdrawal of the rejection with respect to Claim 4 under 35 U.S.C. §103(a) and allowance of Claim 4 are respectfully requested.

C. REJECTION OF CLAIMS 7-9 AND 15

Claims 7-9 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Roustaei. Claims 7-9 depend from Claim 1 and contain all of the features of Claim 1, therefore for the reasons presented above for the patentability of Claim 1, it is respectfully submitted that Claims 7-9 are also patentable. Hence, withdrawal of the rejection with respect to Claims 7-9 under 35 U.S.C. §103(a) and allowance of Claims 7-9 are respectfully requested.

With respect to independent Claim 15, it is respectfully submitted that Roustaei does not disclose or suggest “A method for communicating image information using a monolithic circuit chip comprising the steps of: capturing, by a digital imager, an image; processing the image by a processor using a ferroelectric memory; equipping the monolithic circuit chip with an RFID reader for reading an RFID tag; and transmitting, by a radio frequency transmitter, the processed image over an air-interface, wherein the digital imager, processor and radio frequency transmitter are formed on the monolithic circuit chip,” as recited by Appellants’ Claim 15. Support for the underlined recitations to Appellants’ Claim 15 can be found at page 8, line 15 to page 10, line 13; and page 11, lines 22-25 of Appellants’ specification.

As discussed above with respect to Claim 1, Roustaei discloses RFID technology at paragraph 0168 in conjunction with FIG. 22 where an RFID tag for identifying an item within the field of a RF reader is described. Roustaei, however, does not disclose or suggest a method for communicating image formation using a monolithic circuit chip comprising at least the step of equipping the monolithic circuit chip with an RFID reader for reading an RFID tag, as recited by Appellants’ Claim 15.

Accordingly, it is therefore respectfully submitted that Claim 15 is allowable over Roustaei. Hence, withdrawal of the rejection with respect to Claim 15 under 35 U.S.C. §103(a) and allowance of Claim 15 are respectfully requested.

D. REJECTION OF CLAIMS 16-18

Claims 16-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Roustaei in view of U.S. Patent No. 6,243,029 issued to Tomer. Claims 16-18 depend from Claim 15 and contain all of the features of Claim 15, therefore for the reasons presented above for the patentability of Claim 15, it is respectfully submitted that Claims 16-18 are also patentable. Hence, withdrawal of the rejection with respect to Claims 16-18 under 35 U.S.C. §103(a) and allowance of Claims 16-18 are respectfully requested.

E. CONCLUSION

Independent Claims 1 and 15 and their respective dependent claims are patentable over the cited references, and therefore the rejections with respect to these claims should be reversed.

Respectfully submitted,



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CLAIMS APPENDIX

1. A monolithic circuit chip having a radio frequency (RF) communication capability, wherein the circuit chip comprises:
 - a complementary metal oxide semiconductor (CMOS) imager;
 - CMOS microprocessing circuits for receiving image data from the CMOS imager and data from an RF receiver;
 - an RFID reader; and
 - a memory for providing non volatile data storage on the circuit chip.
2. The monolithic circuit chip of claim 1, wherein shared circuitry on the circuit chip performs signal compression for both RF communication signals and data signals from the CMOS imager.
3. The monolithic circuit chip of claim 1, wherein the RF receiver comprises an RF transmitter and wherein images captured by the CMOS imager are communicated over an air interface using the RF transmitter.
4. The monolithic circuit chip of claim 1, wherein the RF receiver operates in accordance with a radio access protocol selected from the group consisting of:
 - Bluetooth;
 - IEEE 802.11; and
 - HomeRF.

5. The monolithic circuit chip of claim 1 further comprising: interface circuitry for providing power and control signals to the CMOS imager and the RF receiver and for converting analog RF signals and analog image signals into digital signals, wherein the interface circuitry provides the digital signals to the microprocessing circuit.

6. The monolithic circuit chip of claim 1, wherein the circuit chip is formed using CMOS techniques.

7. The monolithic circuit chip of claim 1, wherein the memory is ferroelectric random access memory.

8. The monolithic circuit chip of claim 1, wherein the memory is flash memory.

9. The monolithic circuit chip of claim 1, wherein the memory is E²PROM.

15. A method for communicating image information using a monolithic circuit chip comprising the steps of:

capturing, by a digital imager, an image;

processing the image by a processor using a ferroelectric memory;

equipping the monolithic circuit chip with an RFID reader for reading an RFID tag; and transmitting, by a radio frequency transmitter, the processed image over an air-interface,

wherein the digital imager, processor and radio frequency transmitter are formed on the

monolithic circuit chip.

16. The method of claim 15, wherein the image is of a parking space, the method further comprising the steps of:

receiving the processed image; and

determining whether the parking space is occupied using the processed image.

17. The method of claim 15, further comprising the steps of:

receiving identification information by the RFID reader;

determining an amount of time that an automobile associated with the identification information is parked in a parking space; and

billing an owner of the automobile using the identification information based on the determined amount of time.

18. The method of claim 15, further comprising the steps of:

receiving, by a radio frequency receiver, the processed image;

determining whether a parking space is occupied using the processed image; and

transmitting information to an automobile of the location of the parking space if it is determined that the parking space is not occupied.

EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131 or 1.132 or of any other evidence entered by the examiner and relied upon by Appellant in the appeal.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings by a court or the Board.